

Claims

1. An electrically actuated valve arrangement (10) for the controlled opening and closing of a working chamber (12) of  
5 an internal-combustion engine, with

an electrical linear drive unit (18) which, depending on electrical triggering signals, causes a valve stem (16) of the valve arrangement (10) to execute longitudinal  
10 movements between an open position and a closed position of the valve arrangement (10),

at least one actuating element (38) and an engagement element (30) interacting with said actuating element, one  
15 of these elements being arranged in torsion-resistant manner on the valve stem and the other of these elements being arranged statically in relation to the mobile valve stem (16) in such a manner that

20 prior to reaching the open or closed position of the valve stem (16) the engagement element (30) and the actuating element (38) come into engagement with one another and trigger a rotary movement (D) which is superimposed on the longitudinal movement (P) of the valve stem (16).

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2. Electrically actuated valve arrangement (10) according to Claim 1, wherein the engagement element (30) is connected to the valve stem (16) and the actuating element (38) is arranged on the housing of the working chamber  
30 (12).

3. Electrically actuated valve arrangement (10) according to Claim 1, wherein the engagement element (30) is arranged

on the housing of the working chamber (12) and the actuating element (38) is connected to the valve stem (16).

4. Electrically actuated valve arrangement (10) according  
5 to one of Claims 1-3, wherein the engagement element (30)  
is an area or plate provided with surface irregularities.

5. Electrically actuated valve arrangement (10) according  
to Claim 4, wherein the engagement element (30) is a disc  
10 or a surface segment with substantially radially oriented  
depressions and/or elevations (32, 34) relative to the  
valve stem (16).

6. Electrically actuated valve arrangement (10) according  
15 to one of Claims 1-5, wherein the actuating element (38) is  
a spring arrangement, preferably a leaf-spring arrangement,  
with a substantially tangential directional component  
relative to the valve stem (16).

20 7. Electrically actuated valve arrangement (10) according  
to one of Claims 1-6, wherein the actuating element (38) is  
oriented at an acute angle relative to an active surface  
(36) of the engagement element (30).

25 8. Electrically actuated valve arrangement (10) according  
to one of Claims 1-7, wherein the rotary movement (D) is  
imparted to the valve stem (16) in the course of the  
approach to the open position.